ANAEROBIC TREATMENT PROCESS FOR THE RAPID HYDROLYSIS AND CONVERSION OF ORGANIC MATERIALS TO SOLUBLE AND GASEOUS COMPONENTS

Abstract of the Disclosure

An anaerobic digestion process capable of converting organic slurries to precipitates, as well as soluble and gaseous products through a series of reactors or process steps. The organic material is processed through three sequential steps consisting of two anaerobic digestion steps and an intermediate liquid/solid separation step. The sequential steps consist of first degrading rapidly metabolized soluble and particulate constituents, contained in the influent, by mixing the influent to the first reactor with an effluent from a second reactor containing a high concentration of active biomass. Effluent from the first reactor is treated in a second step wherein the soluble and particulate components are mechanically separated from an effluent stream essentially free of particulate material but containing soluble products of digestion. The particulate stream is transferred to the second anaerobic reactor wherein the solely degrading materials are converted to soluble and gaseous products of digestion as well as precipitates.